

## KLRG1

Cat.No. 554 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

### Data Sheet

|                            |                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reconstitution/<br>Storage | 50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide were added for stabilization. For <b>reconstitution</b> add 50 µl H <sub>2</sub> O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet. |
| Applications               | <b>WB:</b> 1 : 1000 (AP staining)<br><b>IP:</b> not tested yet<br><b>ICC:</b> not tested yet<br><b>IHC:</b> 1 : 500 (see remarks)<br><b>IHC-P (FFPE):</b> 1 : 1000 up to 1 : 4000                                                                                                                                                                                                                      |
| Immunogen                  | Synthetic peptide corresponding to residues near the amino terminus of mouse KLRG1 (UniProt Id: O88713)                                                                                                                                                                                                                                                                                                |
| Reactivity                 | Reacts with: mouse (O88713).<br>Other species not tested yet.                                                                                                                                                                                                                                                                                                                                          |
| Remarks                    | <b>IHC:</b> Antigen retrieval with citrate buffer pH 6 is required.                                                                                                                                                                                                                                                                                                                                    |

**TO BE USED IN VITRO / FOR RESEARCH ONLY**  
**NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS**

## Background

Killer cell lectin-like receptor G1 (KLRG1) is an inhibitory lectin-like type II transmembrane glycoprotein receptor expressed on the surface of natural killer (NK) cells and distinct subsets of T-cells, where it functions as an immune checkpoint. KLRG1 is primarily expressed on mature immune cells, while naïve cells show little to no expression (1). In human T-cells, KLRG1 expression increases markedly with age and cellular differentiation, with the highest levels observed in memory T-cells and highly differentiated terminal effector cells (2).

KLRG1 contributes to immune regulation through its interaction with cadherins, including E-, N-, and R-cadherin, which are key mediators of cell–cell adhesion (3). KLRG1 binding to cadherins raises NK and T-cell activation thresholds, limiting NK cytotoxicity and protecting cadherin-expressing tissues. Beyond its role in effector T cells and NK cells, KLRG1 has also been investigated in group 2 innate lymphoid cells (ILC2s) in the lung and skin (4,5). Importantly, KLRG1 can bind tumor-derived E-cadherin (6), highlighting its potential as a therapeutic target in cancer immunotherapy (7).

## Selected General References

The role of KLRG1: a novel biomarker and new therapeutic target.  
Zhang Y et al. Cell Commun Signal (2024) PubMed:38898461

E-cadherin expression promotes tumor growth via KLRG1-dependent pathways.  
Myers JA et al. J Immunol (2026) PubMed:42030532

Targeting the novel immune checkpoint KLRG1 is markedly therapeutic against cancer through multiple lymphocyte subsets.  
Jones TA et al. J Immunother Cancer (2026) PubMed:41956544

Rapid group-2 innate lymphoid cell mobilization from the intestine aids in early lung defense and repair.  
Can UI et al. Cell Rep (2025) PubMed:40543040

Innate lymphoid cells: a new key player in atopic dermatitis.  
Jia H et al. Front Immunol (2023) PubMed:37908364

The Yin and Yang of Targeting KLRG1+ Tregs and Effector Cells.  
Borys SM et al. Front Immunol (2022) PubMed:35572605

KLRG1—more than a marker for T cell senescence.  
Henson SM et al. Age (Dordr) (2009) PubMed:19479342

Access the online factsheet including applicable protocols at <https://sysy.com/product/554003> or scan the QR-code.



## FAQ - How should I store my antibody?

### Shipping Conditions

- All SYSY antibodies and control proteins/peptides are shipped lyophilized (vacuum freeze-dried). In this form, they remain stable without loss of quality at ambient temperatures for several weeks.

### Storage of Sealed Vials after Delivery

- **Unlabeled** and **biotin-labeled antibodies** and **control proteins** should be stored at **4°C** before reconstitution. **Do not freeze lyophilized antibodies.** Temperatures below 0°C may impair performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long-term storage of lyophilized fluorophore-conjugates may cause aggregation.
- **Control peptides** should be stored at -20°C before reconstitution.

### Long Term Storage after Reconstitution (General Considerations)

- **Do not use frost-free ("no-frost") freezers.** These units periodically warm to remove ice buildup, causing freeze–thaw cycles that can damage antibodies.
- Store vials in areas with minimal temperature fluctuation - preferably toward the back of the freezer, not on the door.
- Aliquot reconstituted antibodies and store at –20°C to –80°C.
- Avoid very small aliquots (<20 µL), as evaporation and adsorption to tube surfaces can reduce antibody concentration and activity.
- Use the smallest practical storage vial to minimize surface area.
- Adding glycerol to a final concentration of 50% prevents freezing at -20°C, allowing storage in liquid form and effectively avoiding freeze–thaw cycles.

### Product Specific Hints for Storage

#### Control proteins / peptides

- Store at -20°C to -80°C

#### Monoclonal Antibodies

- **Ascites and hybridoma supernatant:** Store at -20°C to -80°C  
Prolonged storage at 4°C is not recommended, as proteases present in ascites may degrade antibodies.
- **Purified IgG:** Store at -20°C to -80°C  
Adding a carrier protein (e.g., BSA) enhances long-term stability.  
Many SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

#### Polyclonal Antibodies

- **Crude antisera:** Can be stored at 4°C with antimicrobials added, but -20°C to -80°C is preferred
- **Affinity-purified antibodies:** Less stable than antisera; store at -20°C to -80°C  
Adding a carrier protein such as BSA improves long-term stability.  
Most SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

#### Fluorescence-labeled Antibodies

- Store as a liquid with 1:1 (v/v) glycerol at -20°C, and protect from light exposure

## Avoid repeated freeze-thaw cycles for all antibodies!

## FAQ - How should I reconstitute my antibody?

### Reconstitution

- All purified SYSY antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the volume of deionized water specified in the corresponding datasheet. If a larger final volume is desired, first add the recommended amount of water, then adjust with PBS and, if needed, add a stabilizing carrier protein (e.g., BSA) to a final concentration of 2%. Some SYSY antibodies already contain albumin; please take this into account before adding additional carrier protein.

For complete reconstitution, carefully remove the vial cap. After adding water, briefly vortex the solution. To collect the liquid at the bottom of the vial, place the vial inside a 50 ml centrifuge tube padded with paper and centrifuge briefly.

- If desired, small amounts of azide or thimerosal may be added to prevent microbial growth. This is particularly recommended when storing an aliquot at 4°C.
- After reconstitution of fluorescence-labeled antibodies, add glycerol 1:1 (v/v) to achieve a final concentration of 50%. This prevents freezing at –20°C and keeps the antibody in liquid form, effectively avoiding freeze–thaw cycles.
- Glycerol may also be added to unlabeled primary antibodies as a general measure to prevent freeze–thaw damage.
- For further guidance, please refer to our **storage tips** and recommendations for reconstituted antibodies, control peptides, and control proteins.